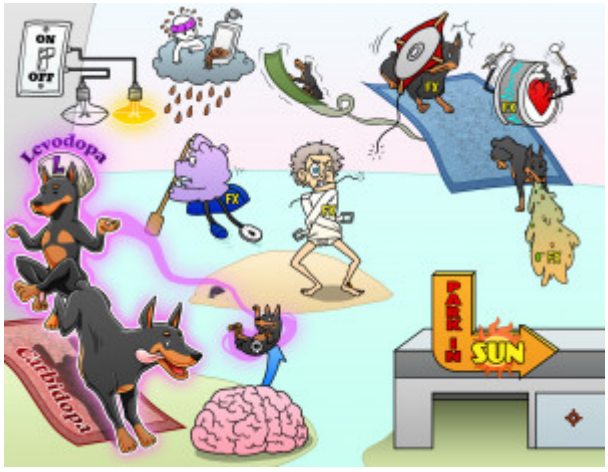
Levodopa/Carbidopa (Sinemet)

Levodopa is administered in combination with carbidopa to slow down the progression of Parkinson’s disease. This medication functions by increasing the amount of dopamine in the brain. Levodopa/Carbidopa is associated with the development of certain side effects, including dyskinesia, nausea and vomiting, cardiac dysrhythmias, psychosis, and postural hypotension. Some patients taking levodopa/carbidopa have reported feeling uncontrolled movements, an off and on phenomenon, and may experience darkened sweat or urine.



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Mechanism

Increases Dopamine in Brain

Up-arrow Doberman at Brain

Levodopa is capable of crossing the blood brain barrier and is converted to dopamine within the brain. Carbidopa, which is used in combination with levodopa, inhibits the conversion of levodopa to dopamine in the peripheral tissue to ensure that dopamine only increases within the central nervous system. The combination of the two drugs increases the amount of dopamine within the brain.

Indications

Parkinson's Disease

Park-in-sun garage

Levodopa is considered one of the most effective drugs in the management of Parkinson’s disease. Levodopa/carbidopa is utilized to decrease the progression of Parkinson’s disease and increase quality of life. With only levodopa and not in combination with carbidopa; it eventually becomes ineffective in treating neurodegenerative progression.

Side Effects

Nausea and Vomiting

Vomiting

Nausea and vomiting is a common side effect during early treatment. To decrease the incidence of nausea and vomiting, levodopa/carbidopa should be initially administered in low doses with meals and high protein meals should be avoided, although taking levodopa with meals may decrease its effect. In addition, giving additional carbidopa may decrease nausea and vomiting.

Arrhythmias

Broken Arrhythmia-drum

If excess amounts of levodopa are converted to dopamine in the peripheral tissue, it can activate beta 1 receptors and promote cardiac dysrhythmias. Patients with underlying cardiac issues are at greatest risk for this side effect.

Dyskinesia

Disc-kite

Long term use of levodopa/carbidopa may cause involuntary movements, referred to as dyskinesia. These involuntary movements may be delayed for weeks or months after starting treatment and can include grimacing, tics, choreoathetosis, and head bobbing. Amantadine may be prescribed to alleviate dyskinesia.

Psychosis

Psycho in straight-jacket

Drug-induced psychosis occurs in roughly 20% of patients. These symptoms may include paranoia, nightmares, and visual hallucinations. Overactivation of dopamine receptors are thought to be involved in the development of psychosis. It is important to note that utilizing antipsychotic medications for treatment of psychosis in patients with Parkinson’s disease may exacerbate symptoms.

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Orthostatic Hypotension

Oar Hippo-BP

In the beginning of treatment, it is highly common for patients to experience orthostatic hypotension (postural hypotension). The mechanism behind the side effect is unknown. However, increasing salt and water intake may decrease the occurrence of postural hypotension.

Considerations

Report Uncontrolled Movements

Out of Control Movement

Patients may experience uncontrolled movements, such as dyskinesias. If these symptoms occur, patients must contact their physician.

Darkened Sweat or Urine

Dark droplets from Sweaty-sweatband and Urinal

The patient taking levodopa should be advised that they may experience darkened colored sweat and urine. However, this side effect is harmless and the patient does not need to be concerned.

Off and On Phenomenon

Off and On Phenomenon-lights in sky

Management of Parkinson’s with levodopa and carbidopa has been associated with an off and on phenomenon in which relief of symptoms may be lost at times. This occurrence can be reduced by utilizing COMT (entacapone) and MAO-B inhibitors (rasagiline).

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